

## DATA STRUCTURE FOR A COMPLEX ORDER PROCESSING SYSTEM

### Abstract

A data structure for a complex order processing system is implemented in a set of tables for assets, quotes, and orders. The asset table includes information regarding products currently installed and services being delivered to a customer's premises. The aggregate asset tables for a customer represent the customer's service profile. The quote table represents an offer to change the products and services provided to a customer; and the order table represents instructions to change the products and services provided to a customer. The assets can represent a product with a hierarchy of instances of sub-products, and one or more of the sub-products can itself be a complex product. The asset, quote and order tables comprise several fields. Some of the fields are the same across the tables so that information can be readily transferred from the quote table to an order table when a quote is approved by a customer and converted to an order. Information is also transferred from an order table to an asset table when an order is successfully completed and the asset configuration is applied to the service profile of the customer. When a customer requests a quote to change their service profile, the information from an asset table is transferred to a quote table. Multiple assets, quotes, and orders can be associated with a customer, and the tables provide information regarding the status of each asset, quote, and order. The data structure also includes information regarding whether a price type of a product or service item is a one-time charge, recurring, or usage-based.